

CLAIMS ON APPEAL

1. A method of recovering cellular functions *in vitro* in cells following injury, comprising the step of:

contacting said cells with ascorbic acid or a salt of ascorbic acid,

wherein said cellular functions are selected from the group consisting of proliferation, mitochondrial function, Na⁺-K⁺-ATPase protein activity, and active Na⁺ transport.

3. The method of claim 1, wherein said ascorbic acid is L-ascorbic acid phosphate.

4. The method of claim 1, wherein the concentration of said ascorbic acid is from about 0.05 mM to about 0.5 mM.

11. A method of recovering cellular functions following injury in an individual in need of treatment, comprising the step of:

administering a therapeutically effective amount of ascorbic acid or a salt of ascorbic acid to said individual,

wherein said cellular functions are selected from the group consisting of proliferation, mitochondrial function, Na^+ - K^+ -ATPase protein expression, Na^+ - K^+ -ATPase protein activity, and active Na^+ transport.

12. The method of claim 11, wherein said injury is selected from the group consisting of halogenated hydrocarbons-induced nephrotoxicity, ischemia-induced acute renal failure, drug-induced acute renal failure, glomerulonephritis, skin abrasions, cuts and burns.

13. The method of claim 12, wherein said halogenated hydrocarbons is dichlorovinyl-L-cysteine.

15. A method of recovering cellular functions in an eye disease or following an injury to the eye of an individual in need of treatment, comprising the step of:

administering an ophthalmic composition comprising a therapeutically effective amount of ascorbic acid or a salt of ascorbic acid in an ophthalmically acceptable carrier to said individual,

wherein said cellular functions are selected from the group consisting of proliferation, mitochondrial function, Na^+ - K^+ -ATPase protein expression, Na^+ - K^+ -ATPase protein activity, and active Na^+ transport and wherein said ascorbic acid is in the concentration range of from about 0.05 mM to about 0.5 mM.

16. The method of claim 15, wherein said injury is selected from the group consisting of acute injury to the eye, eye injury associated with the over production of collagen in conjunctivitis or diabetes mellitus, and eye injury associated with the under production of collagen in rheumatoid arthritis.